APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/461,728	12/16/1999	GREG J. REGNIER	219.36965XOO	4189

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ART UNIT	PAPER NUMBER
2663	

DATE MAILED: 03/22/2004   15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/461,728	REGNIER ET AL.
	Examiner	Art Unit
	Nhat Do	2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>05 January 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-21</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-7,10-15 and 18-21</u> is/are rejected.

7)☒ Claim(s) <u>8, 9, 16, and 17</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 01/05/04 have been fully considered but they are not

persuasive.

Applicants argue that modifying Caldara et al by Fichou et al would change the

principle of operation of Caldara et al and require a substantial reconstruction and

redesign of the elements in Caldara et al.

In reply, Caldara et al disclose a switching system for switching various traffic

types from input queues to output queues (Col. 1, line 65-col. 2, line 8); wherein the

queues are RAM (Col. 4, lines 51-64; col. 5, lines 35-50). Since it is well known in the

art that controlling data in memory is just the matter of controlling the addresses of the

memory, which is masterminded by software.

Furthermore, Caldara et al also disclose the switching is controlled by software

(Col. 6, lines 9-19).

Since the system is controlled by software, modifying the system does not

require a substantial reconstruction of the system because what need to be done is

rewriting the program, and consequently, does not change the principle of the operation

of the system or require substantial reconstruction.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-7, 10-15, and 18-21 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent No. 5,872,769 to Caldara et al in view of U.S. Patent No.

5,790,522 to Fichou et al.

Regarding to claims 1, 10, and 21, Caldara et al disclose a network comprising:

A first node/host system 20 has a first plurality of FIFO queues arranged for high

priority to low priority data movement operations (Fig. 1, 6; col. 9, lines 56, and 57);

A second node/remote system 22 has second plurality of FIFO queues arranged

for high priority to low priority data movement operations connected to the first node by

control and data channels (Fig. 1, 6; col. 5);

I/O transactions are accomplished via the data switch 13, and BA 12 for moving

commands and data between the two nodes (Fig. 1).

Caldara et al fail to disclose the first and second pluralities of queues are

arranged in correspondence with each other. Fichou et al disclose a switching system

in figure 4 wherein the first plurality of queues in the receive adapter (first node) are

arranged in correspondence with the second plurality of queues in the transmit adapter

(second node). A skilled artisan would have been motivated to modify the first and

second pluralities of queues in Caldara et at so that they are corresponding to each

other in order to reduce jitter and delay as taught by Fichou et al (Col. 6, lines 49, and

50). Therefore, it would have been obvious to a person having ordinary skill in the art by

the time the invention was made to have the first and second pluralities of queues

arranged in correspondence with each other in Caldara et al system.

Regarding to claims 2, and 11, Caldara et al fail to disclose control channels prioritize command processing with different priority level. However, Caldara et al disclose the data flow is controlled on per queue basic (Col. 5, lines 50-63) and the queues are arranged in priority level. A skilled artisan would have been motivated to transfer the control signal of the high priority queue (high priority commands) before transfer the control signal of the low priority queue (low priority commands) in order to give the high priority queues the chance to transfer data before the low priority queue. Therefore, it would have been obvious to a person having ordinary skill in the art by the time the invention was made to assign control channels prioritize command processing with different priority level.

Regarding to claims 3, 12, Caldara et al disclose providing queue for control commands (Col. 5, lines 4-6); and queue for data movement operation (Fig. 6) but fail to disclose providing high priority queue for high priority commands and low priority queue for low priority commands. However, Caldara et al disclose the queues are classified based on priority. It would have been obvious to a person have ordinary skill in the art by the time the invention was made to provide high priority queue for high priority commands and low priority queue for low priority commands. A skilled artisan would have been motivated to do so because using one common queue for all commands makes the command processing more complicated and difficult.

Regarding to claims 4, and 13, Caldara et al disclose data is transmitted in groups of cells, and each cell has a header utilized for indicating whether a cell is transmitted in a priority order (Col. 1, lines 18-25; col. 6, lines 9-20).

Regarding to claim 5, Caldara et al disclose a switch, which comprises a plurality of different routes for connecting the first and second node (Fig. 1, 6).

Regarding to claims 6, and 14, further to the rejection claim 1, from figure 1, Caldara et al disclose each port has an input and output interface, therefore the examiner is in the position the first node comprises the input interface 0, and output interface 0, and the second node comprises the input interface n, and output interface n.

Caldara et al fail to disclose each node multiplexes and transmits cells of the same priority from multiple queues. Fichou et al disclose in figure 8 the input interface multiplexes and transmits cells of the real-time data from RT1 and RT2. A skilled artisan would have been motivated to modify the input interface of Caldara et al so that it multiplexes and transmits cells of the same priority from multiple queues in order to reduce jitter and delay as taught by Fichou et al (Col. 6, lines 49, and 50). Therefore, it would have been obvious to a person having ordinary skill in the art by the time the invention was made to multiplex and transmit cells of the same priority from multiple queues.

Regarding to claims 7, 15, Caldara et al disclose the data is spread between multiple data channels (Fig. 6), and it is inherent that latency is decreased and bandwidth is increased when data is spread in different channels.

Regarding to claims 18, and 19, further to the rejection of claim 3, Caldara et al disclose:

Establishing control channel for transferring commands that describe data movement operation between two nodes (Col. 5, lines 1-30);

Transferring data in groups of cells (Col. 1, lines 18-25; col. 5, lines 50-63).

Caldara et al fail to disclose assigning logical priority to control channel for transferring

high priority commands before low priority commands.

However Caldara et al disclose the data flow is controlled on per queue basic (Col. 5,

lines 50-63) and the queues are arranged in priority level. A skilled artisan would have

been motivated to transfer the control signal of the high priority queue (high priority

commands) before transfer the control signal of the low priority queue (low priority

commands) in order to give the high priority queues the chance to transfer data before

the low priority queue. Therefore, it would have been obvious to a person having

ordinary skill in the art by the time the invention was made to assign logical priority to

control channel for transferring high priority commands before low priority commands.

Regarding to claim 20, Caldara et al disclose data is transmitted in groups of

cells, and each cell has a header utilized for indicating whether a cell is transmitted in a

priority order (Col. 6, lines 9-20).

Allowable Subject Matter

4.   Claims 8, 9, 16, and 17 are objected to as being dependent upon a rejected base

claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

Conclusion

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nhat Do whose telephone number is (703) 305-5743.

The examiner can normally be reached on 9:00 AM - 6:00 PM (Monday-Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

                                                        Nhat Do
                                                        Examiner
                                                        Art Unit 2663

March 16, 2004.

CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600 3/18/04